Class #8
“Detecting Earnings Management”
Recap: Why firms/managers “Cook the books?”

- **Central theme:** Firms & managers often have incentives to misstate earnings/balance sheet items:
  - **Contracting incentives:**
    - Avoid violating contracts
    - Maximize bonus (managers)
    - Avoid regulatory/government/union intervention
    - Avoid detection of managerial shirking
  - **Stock market incentives:** Meet analysts’ targets
Why do we care about earnings management?

• Avoid being fooled!
  • Earnings used in deriving numbers for DCF and multiples (P/E, PEG, etc) valuation analysis.
    – Use the wrong numbers & you will misvalue the firm
  • Earnings (and other accounting #’s) to determine financial health and the ability of the firm to pay obligations:
    – Employees
    – Creditors
    – Suppliers
    – Etc

• What is the outcome when accounting misstatement is detected?
  • Stock price reaction and legal recourse is immediate!
Watch Out for “Expectations Management” of Analysts!

Forecast Error = (Actual EPS – Forecast EPS)
Methods for Detecting Earnings Management

• Compare volatility of accrual income measures with underlying volatility of sales and CFO:

\[
\text{Vol(\text{Op Inc})} = \frac{\text{stdev(\text{Op Inc over 5 years})}}{\text{average (\text{Op Inc over 5 years})}}
\]
\[
\text{Vol(Sales)} = \frac{\text{stdev(\text{Sales over 5 years})}}{\text{average (\text{Sales over 5 years})}}
\]
\[
\text{Vol(\text{CFO})} = \frac{\text{stdev(\text{CFO over 5 years})}}{\text{average (\text{CFO over 5 years})}}
\]
\[
\text{Vol(\text{NI})} = \frac{\text{stdev(\text{NI over 5 years})}}{\text{average (\text{NI over 5 years})}}
\]
\[
\text{Vol(\text{CFO})} = \frac{\text{stdev(\text{CFO over 5 years})}}{\text{average (\text{CFO over 5 years})}}
\]
Analysis: Shared Medical Systems

- Perform quality of sales analysis
- Test for Earnings Smoothing

<table>
<thead>
<tr>
<th></th>
<th>25.2%</th>
<th>26.4%</th>
<th>27.4%</th>
<th>28.0%</th>
<th>29.9%</th>
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</thead>
<tbody>
<tr>
<td>AR/SALES</td>
<td></td>
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<tr>
<td>% Growth in AR</td>
<td>23.9%</td>
<td>22.2%</td>
<td>19.6%</td>
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<td>34.8%</td>
</tr>
<tr>
<td>% Growth in Sales</td>
<td>18.2%</td>
<td>17.9%</td>
<td>16.9%</td>
<td></td>
<td>26.1%</td>
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\[
\text{Vol(Op Inc)} = \frac{\text{Std(Op Inc)}}{\text{Avg(Op Inc)}}, \quad 24.20% \\
\text{Vol(CFO)} = \frac{\text{Std(CFO)}}{\text{Avg(CFO)}}, \quad 32.64% \\
\text{Vol(Op Inc)/Vol(CFO)}, \quad 74.13% 
\]
Team Project: Methods for Detecting Earnings Management

– What you **must** calculate for Part I of your Project:
  • Compare % growth in sales with the % growth in AR over the past 5 years (quarters).
  • Calculate the ratio of the scaled standard deviation of Operating Income over the past 5 years to the scaled standard deviation of CFO over the past 5 years. Also, calculate this same ratio for two of the firm's competitors and then make a relative comparison of these ratios.

– Other things you might look at (depending on your industry):
  • Compare change in NI to change in Basic EPS (Is firm “managing” the EPS number by adjusting number of shares outstanding?)
  • Check list of Diagnostics from last class.
Where Next?

• **Quiz #1 in Class on Thursday.**
  – Open notes. No laptop computers/PDAs/cellphones, pagers!
  – Bring a calculator
  – 50 minutes long.
  – Priority for review:
    • Review sample questions
    • Review class notes
    • Review all class handouts
    • Skim over selected reading assigned in class

• **Review Session this evening in this room.**
Team Project

• Part 1 of your Team Project:
  – I answer more questions in class on Thursday (after quiz).
  – **Report is due by noon on Friday, March 7.**
  – Please ensure that the names of all team members are on team's report.
  – Your complete report should merged into one file (either PDF or MS Word format).
  – This file must be e-mailed to both Professor Wysocki and to 2 members of your corresponding Due Diligence Team by noon on Friday.